

Publications Reviewed

A History of the Game Birds, Wild-Fowl and Shore Birds of Massachusetts and adjacent states including those used for food which have disappeared since the settlement of the country, and those which are now hunted for food or sport, with observations on their former abundance and recent decrease in numbers; also the means for conserving those still in existence. By Edward Howe Forbush, State Ornithologist of Massachusetts. Illustrated with Drawings by W. I. Beechcroft and the Author, and Photographs by Herbert K. Job and Others. Issued by the Massachusetts State Board of Agriculture. By Authority of the Legislature, 1912.

"This volume is intended to fill a place heretofore unfulfilled, in at least two respects, by any American work. The former abundance and later decrease of the migratory game birds of eastern North America have been studied and narrated at length for the first time, and the histories of the food species of New England which have been exterminated since the settlement of the country have been brought together. This has been done with a purpose.

"Whenever legislation for the protection of shore birds or wild-fowl has been attempted in the Maritime States of the Atlantic seaboard, certain interested individuals have come forward to oppose it, with the plea that these birds are not decreasing in numbers, but, instead, are increasing, and that they need no further protection. Some admit that certain species are decreasing, but argue that shooting is not responsible for this condition.

"The object of the investigation on which this volume is based was to secure information from historical and ornithological works, and from ornithologists, sportsmen and gunners, regarding the increase or decrease of the birds which are hunted for food or sport.

"The report is published with the intention, first, to show the former abundance of resident and migratory game birds in America and their subsequent decrease in numbers; second, to furnish gunners and others with the means of identifying game birds, that the people may recognize the different species and thus fit themselves to observe protective laws; and third, to demonstrate how the birds may be conserved.

"In the introduction an attempt is made to narrate briefly the history of the decrease of resident and migratory game birds along the Atlantic seaboard. Part I continues this history, but particularizes and localizes by taking up separately each individual species that has been recorded from Massachusetts and nearby states. Part II groups together the histories of the species utilized as

food which have disappeared from New England since the settlement of the country, and exhibits the causes that brought about the destruction of these species, Part III analyzes the causes of the decrease of the species of game birds, wild-fowl and shore birds that are still extant, and indicates how they may be conserved and how depleted areas may be restocked with certain species."

There are 36 plates, exclusive of the colored frontispiece of the discussion as food, and the gun makers who wish a market for their wares, but he warns them that at the present rate of decrease it will be only a short time until there will be none of these birds to furnish sport or food. The conservation of these birds can be realized by the enforcement of, or better, the observance of laws, state or federal, making closed seasons, especially in spring, closed seasons over a number of years for such species as are now nearly extinct, reservations where the birds may breed unmolested, and the artificial propagation of large numbers. It is a most timely book which has large value the country over, since a great deal of data is given not confined to New England. A great deal of information is here brought together for the first time. L. J.

The Experimental Method of Testing the Efficiency of Warning and Cryptic Coloration in Protecting Animals from their Enemies. By W. L. McAtee. From the Proceedings of The Academy of Natural Sciences of Philadelphia, June, 1912. Issued September 6, 1912.

The thoroughness with which Mr. McAtee goes into the subject before reaching his conclusions may best be shown by transcribing the table of contents of this paper.

Introduction. Experiments with Invertebrates (chiefly Insects). Experiments with Vertebrates: Fishes; Amphibia, in Countries other than the United States, in the United States—Toads, Frogs, Salamanders. Reptiles: Experiments in Asia, Experiments in Upland Plover, 82 cuts and 26 figures in the text. There are 622 pages including a list of contributions and an excellent index.

The species mentioned as having become extinct are Great Auk, Labrador Duck, Eskimo Curlew, and Passenger Pigeon. The extirpated species given are Trumpeter Swan, Whooping Crane, Sandhill Crane, and Wild Turkey. These furnish concrete illustrations of what may be expected with many of our game birds unless something is done to check their steady decrease.

In the third part of the book Mr. Forbush recognizes and discusses at length the legitimate claims of the sportsman, the pot-hunter, and the public who wish to continue to use the birds under

Europe, Experiments in America. Mammals. Mixed Groups of Animals. Birds: Experiments in Europe, Experiments in Africa, Experiments in Asia, Experiments in America, Experiments by Judd and Beal. Summary. This whole inquiry covers 83 pages.

Mr. McAtee calls attention to the fact that "The selectionist theories regarding the significance and the causes of production of the so-called warning, mimicking, and cryptic coloration long preceded a knowledge of the food preferences of insectivorous animals sufficient to warrant such speculation," and that knowledge of the food preferences "is still almost entirely lacking for many parts of the world—including the Amazon valley, which is the home of the brightly colored Heliconiid butterflies and their mimics that suggested the mimicry theory to H. W. Bates."

After a careful examination of the experiments which have been performed and reported in literature the author is led to say, "from the writer's point of view, three main conclusions regarding the experimental tests of the efficiency of protective adaptations against natural enemies are unavoidable: (1) The experiments are very inconsistent; (2) they have been misinterpreted; and (3) they are not trustworthy guides to behavior under natural conditions. Having no certain value in themselves, they must be checked up with definite knowledge of the natural food habits. This information is obtained by collecting animals with freshly captured prey and by examination of pellets, castings, and the contents of stomachs or other portions of the alimentary canal. There is no possibility of going back of such evidence on the choice of food, nor is there any need of so doing.

"Since this evidence is sufficient in itself, and since experimental data must be supported by it to be worthy of any consideration, why perform the experiments? The same time expended in collecting trustworthy data regarding the natural food habits of animals would bring much greater returns, and the result would be truth, not imaginative inferences from abnormal behavior." L. J.

Food of Some Well-known Birds of Forest, Farm, and Garden. By F. E. L. Beal and W. L. McAtee, Biological Survey, U. S. Department of Agriculture, Farmers' Bulletin No. 506. Issued September 25, 1912.

This Bulletin follows Bulletin No. 54, treating of birds that are of equal importance with those treated in the former Bulletin, but the species are less widely distributed, or decidedly local in distribution. They are: Three-toed Woodpeckers, California Woodpecker, Lewis Woodpecker, Red-bellied Woodpecker, Sapsuckers, Hummingbirds, Arkansas Kingbird, Western Yellow-bellied Fly-

catcher, Horned Lark, Chipping Sparrow, Junco or Snowbird, White-crowned Sparrow, Southern Butcher Bird, Audubon Warbler, Ruby-crowned Kinglet.

We note that ten of the sixteen figures are from the pencil of Robert J. Sim. They are of unusual excellence. Too much cannot be said in commendation of the work which this paper represents. The data gathered in these investigations will surely furnish incontrovertible data for inquiries such as Mr. MaAtee has begun in a paper reviewed elsewhere in this number. L. J.

On the Collection of Zoölogical Specimens for the Victoria Memorial Museum, Zoölogy. By P. A. Taverner. Canada, Department of Mines, Geological Survey. No. 1234, 1912.

In this little pocket pamphlet of 56 pages Mr. Taverner has not only condensed a complete compendium for collectors of all sorts of zoölogical material with which a great museum should be concerned, but he also gives valuable directions for shipping specimens, methods of collecting, ammunition, other equipment, conduct in the field, and all that goes with the preservation of specimens. In short, it is such a pamphlet as one would find of great value who goes out into the woods and fields for any purpose, and should stimulate those not otherwise inclined to gather specimens to do so. Mr. Taverner's plea to the individual for assistance in building up the Victoria Memorial Museum ought to stir every loyal Canadian to such action as will result in the building of a museum worthy of the wealth and intelligence of Canada. L. J.

Food of Our More Important Flycatchers. By F. E. L. Beal, Assistant, Biological Survey, U. S. Department of Agriculture, Biological Survey — Bulletin No. 44. Issued September 19, 1912.

The species here treated are, the Kingbird, Arkansas Kingbird, Crested Flycatcher, Phoebe, and Black Phoebe. Each is illustrated by the inimitable colored plates of Louis Agassiz Fuertes. The Bulletin covers sixty-six and a half pages. The food of each of the five species is treated in great detail. It is another of the many invaluable studies of the food of our birds. L. J.

Pocket List of Birds of Eastern Massachusetts. Albert P. Morse, Curator of National History. Peabody Museum, Salem, Mass. Published by the Peabody Academy of Science, Salem, Mass. 1912.

"The purpose of this little work is to provide the bird-student in eastern Massachusetts with a handy pocket reminder of 'what, when, and where' to seek." . . . "The List contains 290 species and subspecies. Of these three are probably or certainly extinct; sev-

eral more are extirpated; three are believed to be hybrids; five or six are known or believed to have been introduced; of about 375 remaining, 165 are popularly distinguished as water-birds and 210 are land-birds. Of these, 29 water-birds and 37 land-birds are accidental wanderers from various points of the compass, chiefly from the West and South; 30 more are of decided rarity, leaving about 280 species of somewhat regular occurrence, of which about three-sevenths are water-birds, a relatively large proportion due to the coastwise situation."

These 390 species and subspecies are arranged in systematic sequence following the A. O. U. Check-List implicitly, but adding a number of local or vernacular names. No attempt is made to give descriptions. Relative abundance and status, as well as the times of occurrence are given, and the place of occurrence is stated in the case of each species. The right hand page is left blank for annotations, so that the actual number of printed pages covered by the List is 38. An index covers about 8 pages, and the List closes with about six double pages of "Seasonal Charts," indicating by lines and dashes the actual times of the year when each species is present. This chart is also arranged systematically as to the names of the birds. While there would be some obvious advantages in a chronological arrangement of the species, in the order of their spring migrations, the disadvantage of not knowing where to look for any given species would be great. The print and paper are excellent. The List should prove of great value to students of birds in the region which it covers.

L. J.

Birds in Relation to a Grasshopper Outbreak in California. By Harold C. Bryant. University of California Publications in Zoölogy, Vol. 11, No. 1, pp. 1-20. November 1, 1912.

"An investigation into the relation of birds to a grasshopper outbreak was carried on at Los Banos, Merced County, California, July 11 to 17, 1912.

"Grasshoppers were found to be causing considerable damage to alfalfa and vegetables. An infestation of about fifteen grasshoppers to the square yard appeared to be necessary to cause noticeable damage. In the infested areas the grasshoppers were computed to number from twenty to thirty to the square yard." Observations and the examination of stomach contents showed the following species of birds to be feeding upon grasshoppers: *Agelaius phœniceus californicus*, *Sturnella neglecta*, *Euphagus cyanocephalus*, *Icterus bullocki*, *Tyrannus verticalis*, *Lanius ludovicianus gambeli*, *Passer domesticus*, *Speotyto cumicularia hypogæa*, *Oxyechus vociferus*, *Butorides virescens anthonyi*, *Sayoris nigricans*, *Otocoris*

alpestris actia, *Agelaius tricolor*, *Petrochelidon lunifrons lunifrons*.

"The efficiency of the different species, when determined by destructive capacity, showed the burrowing owl to be the ablest destroyer; when determined by the numbers of individual birds in the territory, showed blackbirds, meadowlarks, killdeers, orioles, and shrikes to take positions in the order named.

"Birds cannot be considered a dependable means of control of all grasshopper epidemics, but can be inferred to be efficient in the prevention of many" and "can be depended on to act as defenders and protectors of crops because of their warfare against grasshoppers, and their value in this regard can be estimated in dollars and cents."

"Birds flocked to areas where grasshoppers were abundant" and "changed their feeding habits and fed on grasshoppers, the insect most available in this case."

Mr. Bryant concludes that while birds fail to check an insect outbreak they do constantly act as a regulative agent under ordinary circumstances when no artificial means of control are employed; and that some species which may do some damage to crops at ordinary times will be of great service during an insect epidemic, and thus offset the damage at other times. We welcome papers of this sort, dealing with concrete cases. Such intensive studies should be pressed in every state.

L. J.

A Systematic List of the Birds of California. By Joseph Grinnell. Cooper Ornithological Club, Pacific Coast Avifauna Number 8. Contributions from the Museum of Vertebrate Zoology of the University of California. Hollywood, California. Published by the Club, August 30, 1912. Edited by Joseph Grinnell and Harry S. Swarth at the Museum of Vertebrate Zoology, University of California.

The writer does not feel competent to pass judgment upon the scheme of classification here given for the birds which occur in the state of California. The task of constructing a classification which represents more nearly what practically all ornithologists the world over consider a more nearly natural arrangement than that adopted and adhered to by the A. O. U., and which must necessarily differ from it, is a somewhat thankless one. Such a classification cannot be adopted and consistently used in one part of the country without throwing into confusion hardly less than the confusion which prevailed before the present A. O. U. arrangement was adopted for North America, the work of this continent. If, as we believe, this scheme of classification is put forward as a contribution to the subject of classification and will serve to accelerate the work of the A. O. U. committee upon classification,

so that ere long we may expect a revised Check-List fashioned upon modern lines, we heartily welcome it, and extend our thanks to the authors for it.

L. J.

Birds of the Pacific Slope of Southern California. By George Willett. Cooper Ornithological Club. Pacific Coast Avifauna Number 7. Hollywood, California. Published by the Club, July 25, 1912.

The territory which this list covers "comprises all of Santa Barbara and Ventura counties, Los Angeles County south and west from the Liebre Mountains, Sierra Pelona and Sierra San Gabriel, San Bernardino County south and west from Sierra Madre and San Bernardino ranges, all of Orange County, Riverside County west from the San Jacinto range, and San Diego County west from the Volcan and Cuyamaca ranges; also the eight islands of the Santa Barbara group, namely San Miguel, Santa Rosa, Santa Cruz, Anacapa, Santa Barbara, San Nicolas, Santa Catalina, and San Clemente. In some cases I have deemed it advisable to refer to records outside the limits as described above in order to show certain connecting features in distribution or migration."

The order followed is that of the 1910 A. O. U. Check-List, except in a few instances where the distribution of certain species do not seem to coincide with the Check-List. The conservatism of the list as here presented is commendable. At that the main list includes 377 names, with an added hypothetical list of 18. The list is concerned with relative abundance, distribution both altitudinal and latitudinal, place and time of breeding of breeding birds, times of migration, and such citations of literature as seem pertinent. Occasional notes of other character add interest to the list. Paper, typography and workmanship are fully equal to the high standard which the Cooper Club is so noted for. The paper is a welcome addition to faunal literature, as bringing this region down to date.

L. J.

The Present and Future Status of the California Valley Quail. By Harold C. Bryant, Fellow in Applied Zoölogy on the Fish and Game Commission Foundation in the University of California. With Map and Diagram. Reprinted from *The Condor*, Vol. XIV, July, 1912, pp. 131-142.

The author concludes, after a careful examination of facts, that the decrease of these birds in some sections calls for conservative action lest in such sections the species be exterminated. In sections where there has been no change and where there has been an increase he recommends that game laws which will operate to maintain a proper balance be enacted. It is no kindness to wild ani-

mals to permit them to increase to the point where crowding must inevitably result in a decreased efficiency in meeting the demands of life, for in such case there is real danger to the species.

L. J.

A Revision of the Subspecies of the Green Heron (*Butorides virescens* [Linnaeus]). By Harry C. Oberholser, Assistant Ornithologist, Biological Survey, Department of Agriculture. No. 1916. —From the Proceedings of the United States National Museum. Vol. 42, pages 529-577. Published August 29, 1912. Washington.

To the six previously existing forms of this heron there are here added twelve subspecies, all south of the United States. In addition to the study of this species, and as a necessary preliminary to it, Mr. Oberholser found it necessary to determine the exact status of *Butorides brunescens* (Lembeye), which he concludes is a good species, occurring in Cuba with the form which inhabits Cuba, here newly named *Butorides virescens cubanus*. The evident thoroughness of this revision inspires the confidence that the splitting of this species of heron into subspecies is settled for years to come.

L. J.

THE ORNITHOLOGICAL JOURNALS.

The Ontario Natural Science Bulletin, No. 7, 1912. Journal of the Wellington Field Naturalists' Club, Guelph, Ontario.

The bird notes in this excellent annual are: The **Bartramian** Sandpiper Breeds near Guelph, Herbert Groh; The Yellow-breasted Chat at Alma, Ont., John Allan, Jr.; Notes on the Winter Birds at Guelph, Ontario, in 1911-12, E. W. Calvert; A Late Migration of the Evening Grosbeak in Ontario, A. B. Klugh; A Chipping Sparrow's Nest on the Ground, J. W. Noble; A Large Colony of Bank Swallows' Nests, J. W. Noble; Spring Bird Notes from Oakville, Ontario, E. W. Calvert.

L. J.

THE AUK. October, 1912. Vol. XXIX, No. 4.

The Freezing of Cayuga Lake in Its Relation to Bird Life. By Alvin R. Cahn, four plates.

The Niagara Swan Trap. By J. H. Fleming.

Methods of Estimating the Contents of Bird Stomachs. By W. L. McAtee.

The Breeding Birds of Southern Center County, Pennsylvania. By Richard C. Harlow.